

● **General policy** The *Biochemical Journal* publishes papers in English in all fields of biochemistry and cellular and molecular biology, provided that they make a sufficient contribution to biochemical knowledge. Papers may include new results obtained experimentally, descriptions of new experimental methods of biochemical importance, or new interpretations of existing results. Novel theoretical contributions will be considered equally with papers dealing with experimental work. All work presented should have as its aim the development of biochemical concepts rather than the mere recording of facts. Preliminary, confirmatory or inconclusive work will not be published. The *Biochemical Journal* will not publish material that has been wholly or largely published elsewhere, even as a preliminary communication or in unreferenced symposium proceedings or on the World Wide Web (WWW); equally, fragmentation of research into the 'least publishable unit' is discouraged.

Submission of a paper implies that it has been approved by all the named authors, that all persons entitled to authorship have been so named, that it reports unpublished work that is not under consideration elsewhere, and that if the paper is accepted for publication the authors will transfer to the Biochemical Society the copyright in the paper, which will then not be published elsewhere in the same form, in any language, without the consent of the Society. Authors will be required to sign an undertaking to these effects.

Authors may suggest potential reviewers for their papers, but the journal is under no obligation to follow such suggestions. Authors may also specify the names of those they wish to be excluded from the review process, and such wishes are usually respected unless, in the opinion of the journal, such a request unreasonably excludes all the expertise available to it in that scientific area.

To allow the reviewers to assess possible overlap with previous work, all submitted papers must be accompanied by duplicate copies of the author's relevant published work, including that on the WWW, and of all related papers in press or under editorial consideration in this or other journals.

The following types of paper are included in the journal.

● **Research Papers** are the normal form of publication, and may be of any length that is justified by their content. However, because of pressure for space in the journal, no paper, whatever its scientific merits, will be accepted if it exceeds the minimum length required for

precision in describing the experiments and clarity in interpreting them. As a guide, most Research Papers published in the *Biochemical Journal* are of between six and eight printed pages. A concise well-written paper tends to be published more rapidly.

● **Accelerated Publications (APs)** are short (normally four printed pages) papers bringing particularly novel and significant findings to the attention of the research community. It is intended that a decision on acceptance or rejection will be made within 10 working days of receipt, and publication of accepted APs in an issue will follow within 2 months. APs receive full but accelerated reviewing. The criteria of 'novelty and significance' are strictly enforced, and papers may be rejected solely on the grounds of lack of novelty and significance. APs are not a path to accelerated publication of sound but non-urgent material. Authors must include in their letter of submission a brief statement of why they believe their AP merits accelerated treatment. Colour figures will be published free of charge in APs, provided the use of colour is deemed scientifically necessary by the reviewers.

● **Reviews** will usually be solicited, although unsolicited reviews will be considered for publication. Prospective writers of reviews should first consult the Reviews Editor, via the editorial office, and should enclose a short (one page) summary of the area they propose to cover.

● **Procedure for submission** These instructions do not replace the official *Biochemical Journal* Instructions to Authors (<http://www.BiochemJ.org>). Authors are encouraged to refer to these for overall guidelines on submitting a paper. Before preparing papers for the journal, authors should consult a current issue to make themselves familiar with the general format, such as the use of cross-headings, layout of tables and figures and citation of references. A full page of text in the *Biochemical Journal* contains approximately 1200 words; when calculating the printed length of papers, allowance must be made for the space occupied by tables and figures and the number of text words reduced accordingly.

The numerical system of references must be used. A reference to 'unpublished work' must be accompanied by the names of all persons concerned; a reference to a 'personal communication' must be supported by written permission for the quotation from the person or persons concerned; both of these types of citation are permitted in the text only, not in the list of references.

● **Submit manuscripts online** Authors should submit manuscripts electronically using the Online Submission and Review System available at <http://www.BiochemJ.org/submit/>

● **Immediate Publications** Manuscripts are published online in PDF format as soon as they are accepted, unless on submission the author requests that this not be done. Immediate Publications are listed in and accessible through Medline, and are freely available to anyone with Internet access.

● **Opt2Pay** Choose to make your paper freely available. For more information see www.biochemj.org.

● **Queries and correspondence** Authors in the Americas should address all queries and correspondence about their submission to: Dr Sharon Schendel, BJ USA, The Burnham Institute, 10901 N. Torrey Pines Road, La Jolla, CA 92037, U.S.A. (telephone +1 858 795 5283; fax +1 858 795 5284; email editorial@biochemjusa.org). Authors in the U.K., the rest of Europe, Japan and the rest of the world should contact: The Publisher, *Biochemical Journal*, Portland Press Ltd, Third Floor, Eagle House, 16 Procter Street, London WC1V 6NX, U.K. (telephone +44 20 7280 4110; fax +44 20 7280 4169; email editorial@portlandpress.com).

● **Colour figures** Colour figures are published free of charge provided that the corresponding author on the published paper has been a member of the Biochemical Society for at least 2 years and that the use of colour is deemed scientifically necessary by the reviewers. Otherwise the charges are £550 for the first colour figure and £300 for each subsequent colour figure.

● **Multimedia adjuncts** The *Biochemical Journal* Online offers authors the opportunity to enhance their papers with multimedia adjuncts (e.g. time-lapse movies, three-dimensional structures, animated schemes). These will be submitted to peer review alongside the manuscript. To submit a paper with a multimedia adjunct, please attach the file when you submit your manuscript electronically. Preferred formats are QuickTime for time-lapse movies, PDB for structures and Flash for animated schemes. There is no extra charge associated with the publication of a multimedia adjunct online.

● **COPE** The *Biochemical Journal* is a member of the Committee on Publication Ethics and endorses its guidelines, which are available at <http://publicationethics.org.uk>

Other information

The *Biochemical Journal* is published and distributed by Portland Press Ltd on behalf of the Biochemical Society. It is published twice monthly; in 2009 volumes 417–424 (three parts each) will appear. The subscription also includes an author and key-word index.

● **Abstracted by/indexed in:** BIOBASE, BIOSIS, CAB International, Chemical Abstracts Service, Current Contents, EMBASE, International Food Information Service, Medline/Index Medicus, Proquest Information & Learning, Science Citation Index.

● **Subscription rates** Institutional subscription rates for 2009 are shown below. Subscribers to the *Biochemical Journal* can subscribe additionally to *Biochemical Society Transactions* and *Biochemistry and Applied Biochemistry* on a joint subscription at a reduced rate (see www.portlandpress.com for further details). Terms are cash with order (US\$ in N. America, £ sterling for rest of the world, or US\$ equivalent at current rate of exchange; subscribers in the EU may pay in £ sterling or Euros), or against pro forma invoice. Orders should

be sent to the address shown, to your usual agent or purchased online at www.portlandpress.com.

	N. America	Rest of world	Euro price
One year (8 vols) Print and online	US\$3922	£1934	€3373
Online only	US\$3531	£1786	€3036
Single issues (print only)	US\$180.50	£91	€155

Overseas rates include airfreight delivery. Airspeeded delivery is available at an additional cost of £80/€101.

Value Added Tax (VAT) on online-only and 'combined' subscriptions is due on supplies to subscribers within the UK, and to non-registered subscribers elsewhere in the EU. If in the EU please state your VAT number otherwise VAT may be charged at the appropriate national rate.

● **Electronic back archive** This is freely available to all users with Internet access.

● **Microfiche and back issues** Volumes 102–408 of the *Biochemical Journal* are available

on microfiche. Back issues are also available. Further details may be obtained from the address below.

● Subscription Department

Portland Customer Services
P.O. Box 32, Commerce Way
Colchester CO2 8HP, Essex, U.K.
(telephone 01206 796351; fax 01206 799331;
email_sales@portland-services.com).

● **Advertising** Enquiries about advertising should be addressed to: Mark Burgess, Editorial Department, Portland Press Ltd, Third Floor, Eagle House, 16 Procter Street, London WC1V 6NX, U.K., tel.: +44 (0)20 7280 4110; fax: +44 (0)20 7280 4169; email: editorial@portlandpress.com

● The paper and cover-boards used in this journal are sourced from sustainable, managed and renewed commercial forests, and are fully recyclable. The bleaching process used for the pulp is 100% ECF (elemental chlorine free).

Reviews**Cholesterol, regulated exocytosis and the physiological fusion machine**

Published on the Internet 14 September 2009,
doi:10.1042/BJ20090969

M.A. Churchward and J.R. Coorssen

1–14

Role of plant glyoxylate reductases during stress: a hypothesis

Published on the Internet 14 September 2009,
doi:10.1042/BJ20090826

W.L. Allan, S.M. Clark, G.J. Hoover and B.J. Shelp

15–22

Online Commentaries

Novel compound with potential of an antibacterial drug targets FtsZ protein

Published on the Internet 14 September 2009,
doi:10.1042/BJ20091226
(see accompanying paper, pp. 61–69)

D. Dasgupta

e1–e3

Why do phosphatidylinositol kinases have so many isoforms?

Published on the Internet 14 September 2009,
doi:10.1042/BJ20091274
(see accompanying paper, pp. 99–108)

S.H. Min and C.S. Abrams

e5–e8

Research Papers

Structural basis of transport of lysophospholipids by human serum albumin

Published as BJ Immediate Publication 14 July 2009,
doi:10.1042/BJ20090913

S. Guo, X. Shi, F. Yang, L. Chen, E.J. Meehan, C. Bian and M. Huang

23–30

Endogenous spartin (SPG20) is recruited to endosomes and lipid droplets and interacts with the ubiquitin E3 ligases AIP4 and AIP5

Published as BJ Immediate Publication 6 July 2009,
doi:10.1042/BJ20082398

T.L. Edwards, V.E. Clowes, H.T.H. Tsang, J.W. Connell, C.M. Sanderson, J.P. Luzio and E. Reid



31–39

Development of *Dictyostelium discoideum* is associated with alteration of fucosylated N-glycan structures

Published as BJ Immediate Publication 17 July 2009,
doi:10.1042/BJ20090786

B. Schiller, A. Hykollari, J. Voglmeir, G. Pörtl, K. Hummel, E. Razzazi-Fazeli, R. Geyer and I.B.H. Wilson



41–52

Asporin competes with decorin for collagen binding, binds calcium and promotes osteoblast collagen mineralization

Published as BJ Immediate Publication 9 July 2009,
doi:10.1042/BJ20090542

S. Kalamajski, A. Aspberg, K. Lindblom, D. Heinegård and Å. Oldberg



53–59

Promoting assembly and bundling of FtsZ as a strategy to inhibit bacterial cell division: a new approach for developing novel antibacterial drugs

Published as BJ Immediate Publication 7 July 2009,
doi:10.1042/BJ20090817

T.K. Beuria, P. Singh, A. Suroliya and D. Panda






61–69

A mechanism for the suppression of interleukin-1-induced nuclear factor κ B activation by protein phosphatase 2C η -2

Published as BJ Immediate Publication 14 July 2009,
doi:10.1042/BJ20090208

T. Henmi, K. Amano, Y. Nagaura, K. Matsumoto, S. Echigo, S. Tamura and T. Kobayashi

71–78

- Fibulin-4 regulates expression of the tropoelastin gene and consequent elastic-fibre formation by human fibroblasts
Published as BJ Immediate Publication 23 July 2009, doi:10.1042/BJ20090993
- A novel variant of ferredoxin-dependent sulfite reductase having preferred substrate specificity for nitrite in the unicellular red alga *Cyanidioschyzon merolae*
Published as BJ Immediate Publication 21 July 2009, doi:10.1042/BJ20090581
- Specific role of phosphoinositide 3-kinase p110 α in the regulation of phagocytosis and pinocytosis in macrophages
Published as BJ Immediate Publication 15 July 2009, doi:10.1042/BJ20090687
- Inositol pyrophosphates modulate hydrogen peroxide signalling
Published as BJ Immediate Publication 17 July 2009, doi:10.1042/BJ20090241
- Potential of flagellin responses in gut epithelial cells by interferon- γ is associated with STAT-independent regulation of MyD88 expression
Published as BJ Immediate Publication 21 July 2009, doi:10.1042/BJ20090392
- High ambient glucose induces angiotensin-independent AT-1 receptor activation, leading to increases in proliferation and extracellular matrix accumulation in MES-13 mesangial cells
Published as BJ Immediate Publication 15 July 2009, doi:10.1042/BJ20082277
- Q. Chen, T. Zhang, J.F. Roshetsky, Z. Ouyang, J. Essers, C. Fan, Q. Wang, A. Hinek, E.F. Plow and P.E. DiCorleto  **79–89**
- K. Sekine, Y. Sakakibara, T. Hase and N. Sato  **91–98**
- N. Tamura, K. Hazeki, N. Okazaki, Y. Kametani, H. Murakami, Y. Takaba, Y. Ishikawa, K. Nigorikawa and O. Hazeki  **99–108**
- S.M.N. Onnebo and A. Saiardi **109–118**
- C. Bannon, P.J. Davies, A. Collett and G. Warhurst **119–128**
- N. Yano, D. Suzuki, M. Endoh, T.N. Cao, J.R. Dahdah, A. Tseng, J.P. Stabila, B.G. McGonnigal, J.F. Padbury and Y.-T. Tseng **129–143**

Editorial Board

Chair

P. R. Shepherd • Auckland
Vice Chair, The Americas
G. Salvesen • La Jolla, CA
Vice Chair, Asia-Pacific
T. Xu • Beijing
Vice Chair, Europe
D. R. Alessi • Dundee
Vice Chair Reviews
A. Tokar • Boston, MA
Deputy Chairs
M. Blatt • Glasgow
L. J. Goodyear • Boston, MA
S. V. Graham • Glasgow
D. Hoekstra • Groningen
S. Huber • Urbana, IL
J. Ladbury • Houston, TX
M. A. Lemmon • Philadelphia, PA
C. MacKintosh • Dundee
K. H. Mayo • Minneapolis, MN
M. Murphy • Cambridge
S. Roberts • Buffalo, NY
M. A. Schwartz • Charlottesville, VA
D. Tosh • Bath
H. M. Wallace • Aberdeen
Publisher
P. J. Starley
Executive Editor
M. R. Thorne
Production Manager
M. D. Cunningham
Staff Editors
L. Ball
C. L. Curtis
E. A. G. Elloway
J. W. Mockridge
Editorial Assistant
H. F. Roberts
Administrative Editor, US Office
S. Schendel

S. Akira (Osaka)
R. A. Anderson (Madison, WI)
J. Arino (Barcelona)
J. M. Backer (Bronx, NY)
B. M. Baker (Notre Dame, IN)
J. L. Blank (Cambridge, MA)
M. A. Bogoyevitch (Melbourne, VIC)
L. H. Boise (Atlanta, GA)
J. Bolaños (Salamanca)
P. J. Booth (Bristol)
L. Bosca (Madrid)
B. Brüne (Frankfurt)
N. J. Buckley (London)
J. F. Caceres (Edinburgh)
D. Carling (London)
M. Cascante (Barcelona)
Y.-G. Chen (Beijing)
L. Chernomordik (Bethesda)
A. C. Clark (Raleigh, NC)
V. Darley-Usmar (Birmingham, AL)
D. A. Day (Sydney)
I. Dikic (Frankfurt)
R. Docampo (Athens, GA)
D. Doyle (Oxford)
C. S. Duckett (Ann Arbor, MI)
A. F. Dulhunty (Canberra)
P. Fay (Rochester, NY)
R. Ferraris (Newark, NJ)
S. E. Finkel (Los Angeles, CA)
P. G. W. Gettins (Chicago, IL)
R. Golsteyn (Lethbridge, AB)
B. Hallberg (Umeå)
B. Halliwell (Singapore)
L. Hedstrom (Waltham, MA)

I. B. Holland (Orsay)
J. M. Horowitz (Raleigh, NC)
A. Imberty (Grenoble)
D. A. Jans (Monash)
P.-S. Jayaraman (Birmingham)
D. Jordan (Peoria, IL)
M. G. Kazanietz (Philadelphia, PA)
D. W. Laird (London, Ont.)
J. H. Lakey (Newcastle upon Tyne)
K. Lingelbach (Marburg)
D. W. Litchfield (London, Ont.)
P. S. Lorenzo (Honolulu, HI)
E. Manser (Singapore)
M. McManus (Palmerston North)
J. Miernyk (Columbia, MO)
I. Morgan (Glasgow)
A. J. Morris (Lexington, KY)
M. Muckenthaler (Heidelberg)
B. Mulloy (South Mimms)
A. W. Munro (Manchester)
G. Murphy (Cambridge)
H. Y. Naim (Hannover)
W. Ogawa (Kobe)
G. Panayotou (Varese)
S. Patel (London)
G. Pavitt (Manchester)
N. D. Perkins (Bristol)
L. Persson (Lund)
P. F. Pilch (Boston, MA)
W. C. Plaxton (Kingston, Ont.)
R. Y. Poon (Hong Kong)
A. D. Postle (Southampton)
Z. Radic (La Jolla, CA)
D. R. Richardson (Sydney)

K. Rittinger (London)
J. M. Sanchez-Ruiz (Granada)
R. Sasisekharan (Cambridge, MA)
N. Savery (Bristol)
J. R. Sayers (Sheffield)
M. C. Seabra (London)
F. J. Sharom (Guelph, Ont.)
G. S. Shelness (Winston-Salem, NC)
E. Smythe (Sheffield)
S. Spiegel (Richmond, VA)
S. Stack (Columbia, MO)
W. M. Stark (Glasgow)
H. Stenmark (Oslo)
C. W. Taylor (Cambridge)
N. K. Tonks (Cold Spring Harbor, NY)
M. Torti (Pavia)
C. Tournier (Manchester)
C. Troy (New York, NY)
H. D. Ulrich (South Mimms)
D. M. F. van Aalten (Dundee)
M. van der Woude (York)
B. Vanhaesebroeck (London)
H. J. Vogel (Calgary)
M. Welham (Bath)
M. F. White (St Andrews)
S. Whitney (Canberra)
C. Winterbourn (Christchurch, NZ)
D. Withers (London)
D. Wu (Guangzhou)
A. Xu (Hong Kong)
H. Xue (Shanghai)
H. Yagisawa (Hyogo-Ken)
I. Zachary (London)
C. Zurzolo (Paris)

PORTLAND PRESS Ltd

Third Floor, Eagle House
16 Procter Street
London WC1V 6NX, U.K.



ISSN 0264-6021

Index of Authors

	PAGE		PAGE		PAGE		PAGE
Abrams, C. S.	e5	Endoh, M.	129	Matsumoto, K.	71	Schiller, B.	41
Allan, W. L.	15	Essers, J.	79	McGonnigal, B. G.	129	Sekine, K.	91
Amano, K.	71			Meehan, E. J.	23	Shelp, B. J.	15
Aspberg, A.	53	Fan, C.	79	Min, S. H.	e5	Shi, X.	23
				Murakami, H.	99	Singh, P.	61
Bannon, C.	119	Geyer, R.	41	Nagaura, Y.	71	Stabila, J. P.	129
Beuria, T. K.	61	Guo, S.	23	Nigorikawa, K.	99	Surolia, A.	61
Bian, C.	23					Suzuki, D.	129
		Hase, T.	91	Okazaki, N.	99	Takaba, Y.	99
Cao, T. N.	129	Hazeki, K.	99	Oldberg, Å.	53	Tamura, N.	99
Chen, L.	23	Hazeki, O.	99	Onnebo, S. M. N.	109	Tamura, S.	71
Chen, Q.	79	Heinegård, D.	53	Ouyang, Z.	79	Tsang, H. T. H.	31
Churchward, M. A.	1	Henmi, T.	71			Tseng, A.	129
Clark, S. M.	15	Hinek, A.	79	Padbury, J. F.	129	Tseng, Y.-T.	129
Clowes, V. E.	31	Hoover, G. J.	15	Panda, D.	61		
Collett, A.	119	Huang, M.	23	Plow, E. F.	79	Voglmeir, J.	41
Connell, J. W.	31	Hummel, K.	41	Pörtl, G.	41		
Coorssen, J. R.	1	Hykollari, A.	41			Wang, Q.	79
				Razzazi-Fazeli, E.	41	Warhurst, G.	119
Dahdah, J. R.	129	Ishikawa, Y.	99	Reid, E.	31	Wilson, I. B. H.	41
Dasgupta, D.	e1			Roshetsky, J. F.	79		
Davies, P. J.	119	Kalamajski, S.	53			Yang, F.	23
DiCorleto, P. E.	79	Kametani, Y.	99	Saiardi, A.	109	Yano, N.	129
		Kobayashi, T.	71	Sakakibara, Y.	91		
Echigo, S.	71			Sanderson, C. M.	31	Zhang, T.	79
Edwards, T. L.	31	Lindblom, K.	53	Sato, N.	91		
		Luzio, J. P.	31				